

## Trend Study 15-12-99

Study site name: Quaking Aspen Spring.

Range type: Chained, Seeded P-J .

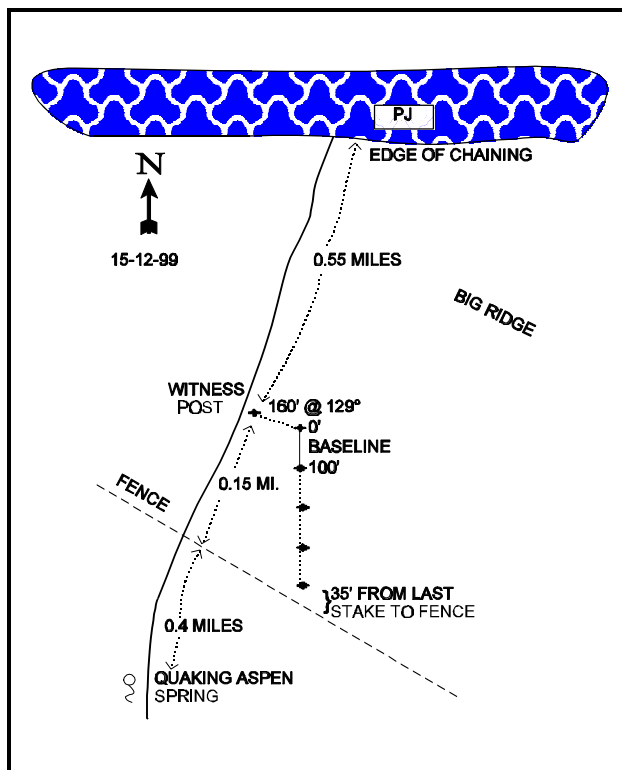
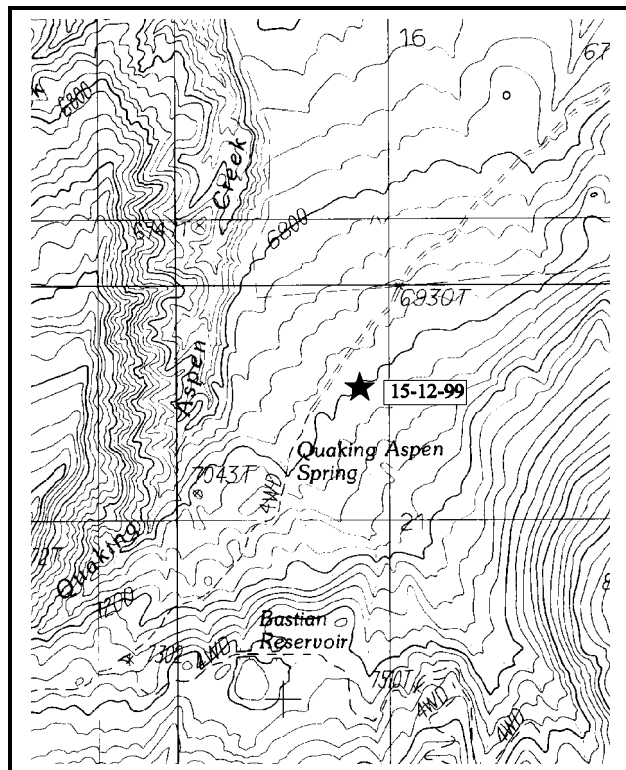
Compass bearing: frequency baseline 165°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

## LOCATION DESCRIPTION

From the intersection of highways 95 and 276, go 4.7 miles south down SR 276 to a gravel road. Turn right and travel 3.1 miles to an abandoned cabin near the creek. Continue 0.6 miles to a fork. Stay right, cross the creek and go 0.8 miles to some mining cabins. Keep left on the main road. Continue 1.2 miles to a fence. Continue 0.2 miles to a fork. Take the left fork towards Quaking Aspen Spring. Go 3 miles to the edge of a chaining. Continue 0.55 miles to a witness post on the left side of the road. The 0-foot baseline stake, a 1 ½ foot tall fence post, is 160 feet southeast of witness post and is marked by a red browse tag #7135.

\*\*\*Alternate route- From study number 15-13, go 2.2 miles to a fork. Stay left and continue 1.6 miles to another fork. Stay left again and go 1.2 miles (you will go through Stanton Pass and pass Quaking Aspen Spring) passing through a fence to a witness post on the right.\*\*\*



Map Name: Cass Creek Peak

### Diagrammatic Sketch

Township 33S , Range 11E , Section 21

UTM 4197939.592 N, 526283.144 E

## DISCUSSION

### Trend Study No. 15-12 (38-12)

The Quaking Aspen Spring study is located in the foothills on the north slope of Mt. Hillars in the pinyon-juniper type. The site is within one-half mile of Quaking Aspen Creek which is a drainage divide between the foothills of Mt. Hillars and Mt. Pennell. The site is at an elevation of 7,000 ft and located on a bench that slopes to the northwest at a fairly consistent slope of 12%. The slope at the study site is only 3%. The area was chained years ago and the trees are regaining dominance of the area. The site is just above the oakbrush zone and mean annual precipitation is estimated at 14 inches. Water is available for wildlife and livestock at Quaking Aspen Spring which is located one mile southwest of the transect. This is thought to be a key use area for mule deer which use the area year-round. The road runs past the study site, but it is rarely traveled except during the deer hunt. Pinyon and juniper offer excellent protective cover, minimizing the disturbance caused by occasional vehicle use. Pellet group data from 1999 indicate light use by wildlife and livestock with an estimated 18 deer and 3 cow days use/acre (44 ddu/ha and 7 cdu/ha).

The soil is a rocky, sandy clay loam with a slightly alkaline pH (7.5). Nutrient levels are low with phosphorus and potassium both below the minimum levels determined necessary for normal plant development. Organic matter is fairly low overall, however it is fairly well distributed under shrub canopies. Soil depth is fairly shallow with an estimated effective rooting depth of just over 12 inches. A calcium carbonate layer exists about four inches down in the profile. Although the soil is quite shallow, there are sufficient breaks in the rocky layers to permit more deep rooted shrubs, such as true mountain mahogany, to do well. Erosion is only slight at the present time.

The average height of pinyon and juniper trees in the chaining during the 1987 reading was about five feet. The stand is composed of mostly young trees. No seedlings were sampled. Point quarter data from 1994 estimate a total of 382 trees/acre, 266 pinyon and 116 juniper trees/acre. Average basal diameter of pinyon was just over 2 inches, while that of juniper was 1.6 inches. In 1999, point quarter data estimated a total tree density of 380 trees/acre, 252 pinyon and 128 juniper trees/acre. The average basal diameter increased for both species, pinyon was estimated at just over 3 inches while juniper was just over 2 inches. Canopy cover of pinyon and juniper trees was estimated at 13% in 1999. One-third of the trees inventoried were knockdown trees from the chaining. The high density of these species is due in part to the large number of seedling and young trees present throughout the site.

The key browse species are black sagebrush and true mountain mahogany. Black sagebrush is the most abundant shrub. In 1994, it accounted 69% of the browse cover, and the population was estimated at 14,160 plants/acre. In 1999, this species has an estimated density of 12,600 plants/acre, with the majority being mature and it now provides 50% of the browse cover. Seedling density was estimated at over 4,000 plants per acre in 1987, but in 1994 and 1999, only 360 and 60 seedlings were estimated respectively. Utilization has been mostly light and vigor generally good over all sampling years. Percent decadency has increased from 12% in 1987, to 21% by 1994, and 22% in 1999. However, this rate is still low compared to many other sites. In 1999, mature black sagebrush plants had abundant seed heads from the previous year. Mountain mahogany numbers approximately 400 plants/acre in 1999, a slight decrease from 440 plants/acre estimated in 1994. The 1994 and 1999 estimates are half that of the 1987 estimate, however this is due largely to the much larger shrub sample size taken in 1994 and 1999 which gives a more representative sample. Mahogany receives much heavier use than black sagebrush. During the 1987 reading, 67% of the mahogany were heavily hedged (>60% of twigs browsed). By 1994, the proportion of plants showing heavy use had decreased to 18%, and those with moderate use had increased from 25% to 45%. In 1999, 25% of the mahogany displayed moderate use with 55% showing heavy use. Vigor has been good over all sampling years and no decadent plants have been sampled.

There are a large number of herbaceous species on the site, but most of these occur infrequently. Most perennial grasses have decreased in frequency since the initial reading in 1987, with the exception of Indian

ricegrass which has increased. Crested wheatgrass is the only seeded grass remaining in the chaining and showed moderate to heavy utilization in 1999, due in part to its low abundance. Cheatgrass is increasing with a significant increase in nested frequency since 1994. It now accounts for 52% of the grass cover and 35% of the herbaceous cover. Forbs are diverse with 23 species being sampled in 1994 and 21 in 1999. However, all species combined only provide 33 of the total herbaceous cover. Two species, lobeleaf groundsel and desert Indian paintbrush, had received moderate to heavy use when the site was read in June of 1999.

#### 1994 TREND ASSESSMENT

Ground cover characteristics are very similar to those of the 1987 reading. Percent bare ground cover has declined slightly and erosion does not appear to be a problem on this site. Trend for soil is stable. Trend for browse is stable with healthy populations of black sagebrush and mountain mahogany. The herbaceous understory is in a state of decline. Sum nested frequencies of perennial grasses and forbs have declined significantly since 1987.

##### TREND ASSESSMENT

soil - stable

browse - stable

herbaceous understory - declining

#### 1999 TREND ASSESSMENT

Trend for soil is stable with ground cover characteristics similar to those in 1994. Trend for the key browse, black sagebrush and true mountain mahogany, is stable. Although densities for both slightly decreased from 1994 estimates, percent decadency for black sagebrush did not increase and the proportion of decadent plants that are dying is very low at 4%. No decadent plants were sampled for mahogany. Vigor was good for both species even with moderate to heavy use on mahogany which is tolerant to high levels of browsing. Trend for the herbaceous understory is stable. Sum of nested frequency for perennial grasses and forbs increased in 1999. One negative aspect in the understory is the increase in nested and quadrat frequency values for cheatgrass.

##### TREND ASSESSMENT

soil- stable

browse- stable

herbaceous understory- stable

HERBACEOUS TRENDS --  
Herd unit 15 , Study no: 12

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'87	'94	'99	'87	'94	'99	'94	'99
G	Agropyron cristatum	<sub>b</sub> 63	<sub>a</sub> 9	46	32	5	21	.19	.66
G	Bouteloua gracilis	<sub>b</sub> 174	<sub>a</sub> 118	<sub>a</sub> 97	69	47	43	1.62	.93
G	Bromus tectorum (a)	-	<sub>a</sub> 23	<sub>b</sub> 177	-	12	58	.08	3.40
G	Koeleria cristata	-	-	1	-	-	1	-	.00
G	Oryzopsis hymenoides	<sub>a</sub> -	<sub>a</sub> 1	<sub>b</sub> 57	-	1	24	.03	.46
G	Poa fendleriana	101	95	61	44	44	27	1.25	.88
G	Sitanion hystrix	<sub>c</sub> 163	<sub>b</sub> 113	<sub>a</sub> 14	70	47	8	.43	.17
G	Stipa comata	4	-	3	2	-	1	-	.00
Total for Annual Grasses		0	23	177	0	12	58	0.08	3.40
Total for Perennial Grasses		505	336	279	217	144	125	3.54	3.14
Total for Grasses		505	359	456	217	156	183	3.63	6.54
F	Agoseris glauca	<sub>a</sub> -	<sub>a</sub> 3	<sub>b</sub> 14	-	2	6	.03	.10
F	Allium spp.	2	-	-	1	-	-	-	-
F	Arabis demissa	<sub>b</sub> 31	<sub>a</sub> 8	<sub>ab</sub> 25	13	4	9	.02	.09
F	Astragalus moencopensis	<sub>a</sub> -	<sub>b</sub> 12	<sub>a</sub> -	-	6	-	.03	-
F	Aster spp.	<sub>a</sub> -	<sub>b</sub> 4	<sub>a</sub> -	-	3	-	.01	-
F	Astragalus spp.	16	6	6	8	3	4	.04	.12
F	Castilleja chromosa	<sub>b</sub> 40	<sub>a</sub> 9	<sub>ab</sub> 23	21	4	14	.05	.70
F	Calochortus nuttallii	<sub>a</sub> -	<sub>b</sub> 6	<sub>b</sub> 8	-	5	3	.02	.01
F	Comandra pallida	<sub>a</sub> -	<sub>b</sub> 14	<sub>a</sub> -	-	7	-	.11	-
F	Crepis acuminata	-	2	1	-	1	1	.00	.01
F	Cryptantha spp.	-	-	3	-	-	1	-	.03
F	Descurainia pinnata (a)	-	2	-	-	2	-	.01	-
F	Eriogonum spp.	-	-	3	-	-	1	-	.00
F	Erigeron pumilus	19	19	19	8	10	6	.22	.09
F	Eriogonum umbellatum	<sub>b</sub> 7	<sub>a</sub> -	<sub>ab</sub> 2	3	-	1	-	.00
F	Gayophytum ramosissimum (a)	-	<sub>b</sub> 28	<sub>a</sub> -	-	14	-	.07	-
F	Haplopappus acaulis	-	-	1	-	-	1	-	.00
F	Hymenoxys acaulis	44	29	29	21	16	11	.10	.15
F	Lappula occidentalis (a)	-	<sub>b</sub> 20	<sub>a</sub> -	-	8	-	.12	-
F	Lesquerella kingii	<sub>a</sub> 40	<sub>a</sub> 16	<sub>b</sub> 86	21	9	39	.04	.54
F	Linum lewisii	<sub>b</sub> 51	<sub>ab</sub> 43	<sub>a</sub> 21	26	19	11	.13	.34
F	Lomatium spp.	-	-	1	-	-	1	-	.00
F	Lygodesmia spinosa	<sub>b</sub> 20	<sub>ab</sub> 14	<sub>a</sub> 3	9	6	3	.17	.01
F	Machaeranthera canescens	3	-	-	2	-	-	-	-
F	Penstemon comarrhenus	2	6	3	1	2	2	.18	.01
F	Phlox longifolia	<sub>b</sub> 167	<sub>a</sub> 116	<sub>a</sub> 119	69	52	49	.33	.66
F	Polygonum douglasii (a)	-	<sub>b</sub> 47	<sub>a</sub> 8	-	20	4	.10	.02

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'87	'94	'99	'87	'94	'99	'04	'09
F	Senecio multilobatus	<sub>b</sub> 21	<sub>a</sub> 1	<sub>b</sub> 25	14	1	15	.00	.25
F	Sphaeralcea coccinea	1	2	-	1	1	-	.00	-
F	Unknown forb-perennial	3	-	-	1	-	-	-	-
F	Zigadenus paniculatus	2	1	2	1	1	2	.00	.03
Total for Annual Forbs		0	97	8	0	44	4	0.30	0.01
Total for Perennial Forbs		469	311	394	220	152	180	1.53	3.21
Total for Forbs		469	408	402	220	196	184	1.83	3.23

Values with different subscript letters are significantly different at  $\alpha = 0.10$

#### BROWSE TRENDS --

Herd unit 15 , Study no: 12

Type	Species	Strip Frequency		Average Cover %	
		'04	'09	'04	'09
B	Amelanchier utahensis	4	3	.03	.03
B	Artemisia nova	96	94	18.32	16.84
B	Cercocarpus montanus	17	13	1.15	2.04
B	Chrysothamnus depressus	15	19	.39	.31
B	Chrysothamnus nauseosus	5	0	.18	-
B	Coryphantha vivipara arizonica	0	0	-	.01
B	Eriogonum microthecum	63	26	.64	.59
B	Gutierrezia sarothrae	12	4	.01	.04
B	Juniperus osteosperma	0	18	2.73	6.50
B	Opuntia spp.	4	1	-	-
B	Pinus edulis	0	12	3.24	7.62
B	Tetradymia canescens	1	0	-	-
Total for Browse		217	190	26.71	34.00

#### CANOPY COVER --

Herd unit 15 , Study no: 12

Species	Percent Cover '09
Juniperus osteosperma	5
Pinus edulis	8

BASIC COVER --

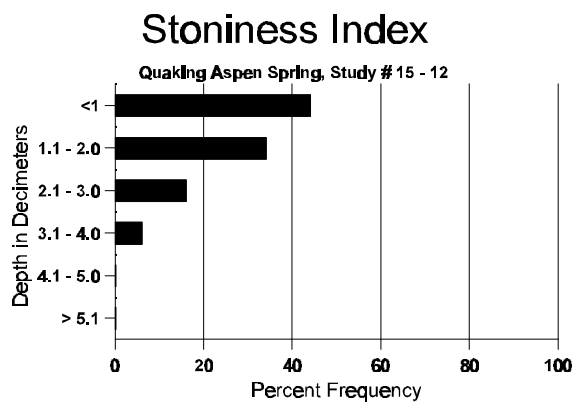
Herd unit 15 , Study no: 12

Cover Type	Nested Frequency		Average Cover %		
	'04	'09	'87	'94	'99
Vegetation	302	330	7.75	33.40	39.97
Rock	308	296	18.50	22.14	24.27
Pavement	254	233	2.25	2.52	6.59
Litter	379	353	57.00	30.12	35.56
Cryptogams	1	72	.25	.00	1.26
Bare Ground	281	249	14.25	12.17	12.61

SOIL ANALYSIS DATA --

Herd Unit 15, Study # 12, Study Name: Quaking Aspen Spring

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
12.3	55.0 (12.5)	7.5	51.3	22.2	26.6	2.1	6.6	44.8	.6



PELLET GROUP DATA --

Herd unit 15 , Study no: 12

Type	Quadrat Frequency	
	'04	'09
Rabbit	17	28
Deer	9	16
Cattle	-	3
Buffalo	1	-

Pellet Transect Days Use/Acre (ha)
'09
N/A
12 (30)
3 (7)
0

## BROWSE CHARACTERISTICS --

Herd unit 15 , Study no: 12

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches)		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4		Ht. Cr.		
Amelanchier utahensis																		
S	87	3	-	-	-	-	-	-	-	-	3	-	-	-	200			3
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	87	-	1	-	-	-	-	-	-	-	1	-	-	-	66			1
	94	-	-	-	1	-	-	-	-	-	1	-	-	-	20			1
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	3	-	-	-	-	-	-	-	-	3	-	-	-	60	32	51	3
	99	-	-	1	-	-	2	-	-	-	3	-	-	-	60	37	48	3
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		100%			00%			00%			+18%							
'94		00%			00%			00%			-25%							
'99		00%			100%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	66	Dec:	-			
												'94	80		-			
												'99	60		-			
Artemisia nova																		
S	87	65	-	-	-	-	-	-	-	-	65	-	-	-	4333			65
	94	16	-	-	2	-	-	-	-	-	18	-	-	-	360			18
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
Y	87	32	11	-	-	-	-	-	-	-	37	6	-	-	2866			43
	94	35	-	-	-	-	-	-	-	-	35	-	-	-	700			35
	99	39	-	-	-	-	-	-	-	-	39	-	-	-	780			39
M	87	75	33	11	-	-	-	-	-	-	103	16	-	-	7933	9	10	119
	94	493	-	3	25	-	-	-	-	-	471	-	50	-	10420	11	18	521
	99	399	54	-	-	-	-	-	-	-	453	-	-	-	9060	12	19	453
D	87	11	7	5	-	-	-	-	-	-	14	5	-	4	1533			23
	94	138	-	-	12	-	-	2	-	-	79	-	31	42	3040			152
	99	71	62	4	1	-	-	-	-	-	133	-	-	5	2760			138
X	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	1040			52
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		28%			09%			02%			+13%							
'94		00%			.42%			17%			-11%							
'99		18%			.63%			.79%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	12332	Dec:	12%			
												'94	14160		21%			
												'99	12600		22%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Cercocarpus montanus																		
S	87	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1	
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
Y	87	1	-	1	-	-	-	-	-	-	2	-	-	-	133		2	
	94	1	-	-	1	-	-	3	-	-	5	-	-	-	100		5	
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
M	87	-	3	7	-	-	-	-	-	-	10	-	-	-	666	22	30	
	94	2	10	4	-	-	-	1	-	-	17	-	-	-	340	33	26	
	99	1	5	11	-	-	-	-	-	-	17	-	-	-	340	36	41	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		25%			67%			00%			-45%							
'94		45%			18%			00%			- 9%							
'99		25%			55%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	799	Dec:	-			
												'94	440		-			
												'99	400		-			
Chrysothamnus depressus																		
S	87	5	-	-	-	-	-	-	-	-	5	-	-	-	333		5	
	94	5	-	-	-	-	-	1	-	-	6	-	-	-	120		6	
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
Y	87	2	1	-	-	-	-	-	-	-	3	-	-	-	200		3	
	94	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4	
	99	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4	
M	87	13	1	3	-	-	-	-	-	-	17	-	-	-	1133	6	6	
	94	19	-	-	5	-	-	-	-	-	24	-	-	-	480	4	7	
	99	22	2	-	1	1	-	-	-	-	26	-	-	-	520	4	9	
D	87	2	-	-	-	-	-	-	-	-	2	-	-	-	133		2	
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
	99	3	-	-	-	-	-	-	-	-	1	-	-	2	60		3	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		09%			14%			00%			-60%							
'94		00%			00%			00%			+12%							
'99		09%			00%			06%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	1466	Dec:	9%			
												'94	580		3%			
												'99	660		9%			
Chrysothamnus nauseosus																		
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	94	5	-	-	1	-	-	-	-	-	6	-	-	-	120	3	7	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			00%										
'94		00%			00%			00%										
'99		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	0	Dec:	-			
												'94	120		-			
												'99	0		-			



A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Coryphantha vivipara arizonica																		
S	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	3	4	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
		'87			00%			00%			00%							
		'94			00%			00%			00%							
		'99			00%			00%			00%							
Total Plants/Acre (excluding Dead & Seedlings)												'87	0	Dec:	-			
												'94	0		-			
												'99	0		-			
Eriogonum microthecum																		
S	87	12	-	-	-	-	-	-	-	-	12	-	-	-	800		12	
	94	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
Y	87	8	1	-	-	-	-	-	-	-	9	-	-	-	600		9	
	94	16	-	-	2	-	-	-	-	-	18	-	-	-	360		18	
	99	7	2	-	-	-	-	-	-	-	9	-	-	-	180		9	
M	87	13	7	-	-	-	-	-	-	-	20	-	-	-	1333	5	4	
	94	142	-	-	5	-	-	2	-	-	146	-	3	-	2980	5	6	
	99	38	11	-	-	-	-	-	-	-	49	-	-	-	980	3	5	
D	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
	99	4	18	2	-	-	-	-	-	-	22	-	-	2	480		24	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
		'87			28%			00%			+43%							
		'94			00%			00%			-51%							
		'99			38%			02%			02%							
Total Plants/Acre (excluding Dead & Seedlings)												'87	1933	Dec:	0%			
												'94	3380		1%			
												'99	1640		29%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Gutierrezia sarothrae																		
S	87	3	-	-	-	-	-	-	-	-	3	-	-	-	200		3	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
Y	87	2	-	-	-	-	-	-	-	-	2	-	-	-	133		2	
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
M	87	12	-	-	-	-	-	-	-	-	12	-	-	-	800	7	6	12
	94	10	-	-	-	-	-	-	-	-	10	-	-	-	200	8	7	10
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40	5	5	2
D	87	1	-	-	-	-	-	-	-	-	-	-	-	1	66		1	
	94	5	-	-	-	-	-	-	-	-	4	-	1	-	100		5	
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			07%			-68%							
'94		00%			00%			06%			-63%							
'99		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	999	Dec:	7%			
												'94	320		31%			
												'99	120		17%			
Juniperus osteosperma																		
S	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
Y	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	12	-	-	-	-	-	-	-	-	12	-	-	-	240		12	
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	99	8	-	-	-	-	-	-	-	-	8	-	-	-	160	-	-	8
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			00%										
'94		00%			00%			00%										
'99		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	0	Dec:	-			
												'94	0		-			
												'99	400		-			

A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Opuntia spp.																		
Y	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	1	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	87	6	-	-	-	-	-	-	-	-	6	-	-	-	400	6	9	
	94	3	-	-	-	-	-	-	-	-	3	-	-	-	60	-	-	
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20	6	15	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			00%			-80%							
'94		00%			00%			00%			-75%							
'99		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	400	Dec:	-			
												'94	80		-			
												'99	20		-			
Pinus edulis																		
S	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	87	7	-	-	-	-	-	-	-	-	7	-	-	-	466		7	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
M	87	1	-	-	-	-	-	-	-	-	1	-	-	-	66	55	43	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	99	11	-	-	-	-	-	-	-	-	11	-	-	-	220	-	-	
X	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			00%										
'94		00%			00%			00%										
'99		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	532	Dec:	-			
												'94	0		-			
												'99	280		-			
Tetradymia canescens																		
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20	1	99	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			00%										
'94		00%			00%			00%										
'99		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	0	Dec:	-			
												'94	20		-			
												'99	0		-			